with a lamination of a full reflection type Fresnel lens 7 and a lenticular lens 8. The full reflection Fresnel lens 7 is a thin lens having a surface formed with a plurality of coaxial stepwise portions each having curvature identical to a curvature of a thick lens to provide an optical characteristics of the thick lens. When such Fresnel lens is used, it is possible to realize a lens having a focal length, which is shorter than a diameter of the same lens. Such effect cannot be realized by a spherical lens. The lenticular lens 8 is a lens composed of a plurality of cylindrical lenses arranged on a flat plane and can improve the efficiency of division and collection of light and scattering of light.

FIG. 10 is a trace of the stray light in the second embodiment shown in FIG. 5. As shown in FIG. 10, the light beam is generally directed upward at a large angle with respect to the normal line of the screen in the rear projection television according to each of the embodiments of the present invention. A portion of the light beam reflected by a surface of the screen 4 may be reflected again by the flat mirror 3. However, since the incident angle of the light beam from the focusing optical system on the flat mirror 3 is large, the light portion, which is reflected by the surface of the screen 4 and further reflected by the flat mirror 3, is directed outside the screen area. Therefore, it cannot be incident on the screen 4.

Similarly, a light beam 13 externally incident on the screen 4 is reflected by not the flat mirror 3 but the flat mirror 2 due to the inner construction of the rear projection television in which a light beam is generally directed upward at a large angle with respect to the normal line of the screen. A light beam 12, which is a portion of the light beam 13 reflected by the flat mirror 2, cannot be incident on the screen 4 depending upon the arranging position of the flat mirror 2. Therefore, there is no stray light incident on the screen 4.

Although the projecting and focusing mirrors 5a to 5d each composed of an aspherical lens are used in each of the embodiments of the present invention as the focusing optical system, the focusing optical system may be constructed with a combination of focusing mirrors and projecting lenses.

Furthermore, although the projector has been described as the transparent type image projector using the liquid crystal panel, the projector may be a mirror array constructed with a group of micro mirrors 32 arranged in matrix on a surface of a silicon substrate 31 as shown in FIG. 11A and FIG. 11B. As shown in FIG. 11B, which is a perspective view of one of the micro mirrors 32 each forming a pixel. The micro mirror 32 is supported by a torsion beam 33, which is supported by the silicon substrate 31. The micro mirror 32 is rotated by electrostatic attraction force generated between paired

address electrodes 34 provided on a surface of the silicon substrate 31. That is, the electrostatic attraction force is generated by applying a voltage between the address electrodes 34 and, by on-off switching the voltages applied between the address electrodes 34, the attitude of the micro-mirrors 32 are changed to change a reflecting direction of light L from a light source 30 to thereby produce an image. The image is projected by a projecting lens 37 as shown in FIG. 11A.

It should be noted that the respective embodiments described are preferred embodiments and can be modified in various ways within the scope of the present invention.

As will be clear from the above description, according to the rear projection television of the present invention and the fabrication thereof, the rear projection television can be made compact, since the front surface of the casing becomes the screen and the flat mirror for reflecting the light beam emitted from the projector is provided in at least the upper side of the casing so that there is no space provided in the casing of the rear projection television, which is necessary in the conventional rear projection television.

Furthermore, according to the rear projection television of the present invention and the fabrication method thereof, since the projecting optical path length of light emitted from the projector is substantially reduced compared with the conventional rear projection television,